

### **REMARKS**

In accordance with the foregoing, none of the claims have been amended or cancelled. Claims 1, 2, 5, 10, 11, 13, 15-23, 32, 34, 35, 38 and 39 are pending, claims 15-23, 32, 34 and 35 are withdrawn from consideration. Claims 1 and 10 are the independent claims.

### **DOUBLE PATENTING**

Claims 1, 2, 5, 10, 11 and 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 11 and 15 of U.S. Patent No. 6,797,435 (hereafter Kwon '435) in view of Amatucci et al 5,705,291 (hereafter Amatucci).

Since claims 1, 2, 5, 10, 11 and 13 of the instant application have not yet been indicated as allowable, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claim would be premature. MPEP 804(I)(B).

As such, it is respectfully requested that the applicant be allowed to address any provisional obviousness-type double patenting issues remaining once the rejections of the claim under 35 U.S.C. §§ 102 and 103 are resolved.

Nevertheless, Applicants note that Kweon '435 relates to a positive active material with a surface-treatment layer comprising at least one coating element -included compound, while an aspect of the present invention relates to a positive active material composition for a rechargeable lithium battery.

Claims 1, 2, 5, 10, 11, and 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 12-17 of U.S. Patent No. 6,753,111(hereafter Kwon '111).

Since claims 1, 2, 5, 10, 11 and 13 of the instant application have not yet been indicated as allowable, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claim would be premature. MPEP 804(I)(B).

As such, it is respectfully requested that the applicant be allowed to address any provisional obviousness-type double patenting issues remaining once the rejections of the claim under 35 U.S.C. §§ 102 and 103 are resolved.

Nevertheless, Applicants note that Kweon '111 relates to a positive active material with a surface-treatment layer comprising a coating element -included compound oxide or hydroxide, while an aspect of the present invention relates to a positive active material composition for a rechargeable lithium battery.

Claims 1-2, 5, 10-11, and 13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15, 28-30, 32-35 of copending Application No. 10/189,384 (*US Patent Application Publication 2003/0054250*).

Since claims 1, 2, 5, 10, 11 and 13 of the instant application have not yet been indicated as allowable, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claim would be premature. MPEP 804(I)(B).

As such, it is respectfully requested that the applicant be allowed to address any provisional obviousness-type double patenting issues remaining once the rejections of the claim under 35 U.S.C. §§ 102 and 103 are resolved.

Nevertheless, Applicants note that Application No. 10/189,384 relates to a positive electrode comprising a surface-treatment layer comprising a conductive agent and at least one coating-element-containing hydroxide, while an aspect of the present invention relates to a positive active material composition for a rechargeable lithium battery.

Claims 1, 2, 5, 10, 11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 and 23-28 of copending Application No. 10/072923 (*US Patent Application Publication 2003/0003352*) in view of Amatucci.

Since claims 1, 2, 5, 10, 11 and 13 of the instant application have not yet been indicated as allowable, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claim would be premature. MPEP 804(I)(B).

As such, it is respectfully requested that the applicant be allowed to address any provisional obviousness-type double patenting issues remaining once the rejections of the claim under 35 U.S.C. §§ 102 and 103 are resolved.

Nevertheless, Applicants note that Application No. 10/072,923 relates to a positive electrode comprising a surface-treatment layer formed on a positive active material layer, while an aspect of the present invention relates to a positive active material composition for a rechargeable lithium battery.

Claims 1, 2, 5, 10, 11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 and 25-37 of copending Application No. 09/897445 (*US Patent Application Publication 2002/0071990*).

Since claims 1, 2, 5, 10, 11 and 13 of the instant application have not yet been indicated as allowable, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claim would be premature. MPEP 804(I)(B).

As such, it is respectfully requested that the applicant be allowed to address any provisional obviousness-type double patenting issues remaining once the rejections of the claim under 35 U.S.C. §§ 102 and 103 are resolved.

Nevertheless, Applicants note that Application No. 09/897,445 relates to a positive active material with a surface-treatment layer, while an aspect of the present invention relates to a positive active material composition for a rechargeable lithium battery.

Claims 1, 2, 5, 10, 11 and 13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 and 25-37 of copending Application No. 10/627,725 (*US Patent Application Publication 2004/0018429*).

Since claims 1, 2, 5, 10, 11 and 13 of the instant application have not yet been indicated as allowable, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claim would be premature. MPEP 804(I)(B).

As such, it is respectfully requested that the applicant be allowed to address any provisional obviousness-type double patenting issues remaining once the rejections of the claim

under 35 U.S.C. §§ 102 and 103 are resolved.

Nevertheless, Applicants note that Application No. 10/627,725 relates to a positive active material with a surface-treatment layer, while an aspect of the present invention relates to a positive active material composition for a rechargeable lithium battery.

**REJECTIONS UNDER 35 U.S.C. §103:**

Claims 1, 2, 5, 10, 11, 13, 38 and 39 are rejected under 35 U.S.C. §103(a) as being unpatentable over Amatucci in view of the Japanese publication JP 09-171813 (hereafter "*the JP '813 publication*").

This rejection is traversed at least for the following reasons.

Regarding the rejection of independent claim 1, it is noted that claim 1 recites a positive active material comprising at least one lithiated compound and at least one **amorphous additive** compound selected from the group **consisting of a thermal-absorbent element, wherein** the thermal-absorbent element is an **element selected from** the group consisting of **Mg, Al, Co, K, Na, Ca, Si, Ti, Sn, V, Ge, Ga, As, and Zr**. Applicants respectfully assert that the combination of Amatucci and the JP '813 publication fails to disclose each of these features, notwithstanding the statements of the Examiner to the contrary.

In detail, the Office Action states that Amatucci discloses that the lithiated compound is coated with coating compositions comprising boron oxide, boric acid, **lithium hydroxide**, aluminum oxide, lithium aluminate, lithium metaborate, silicon dioxide, or mixtures thereof (page 22 of the Office Action dated January 24, 2006). The Office Action further notes that such coating compositions, such as the lithium hydroxide, represent additive compounds, that is, compounds added to, included to or incorporated into the positive active material. Accordingly, the Office Action relies on the **lithium hydroxide** for a teaching of the additive compound element-included hydroxide recited in claim 1.

The Office Action further states that the coating composition has either a glassy or crystalline form, in particular, that the **borate is amorphous** (page 23). That is, the Office Action relies on the borate for a teaching of an amorphous additive compound, since there is no teaching in Amatucci of the form of the lithium hydroxide. Furthermore it is noted that although Amatucci discloses crystalline or glassy materials for a coating film, such as borates or

aluminates, Amatucci only discloses that borate and lithiated borate glasses are particularly suitable for the coating film due to their conductive properties. In other words Amatucci teaches away from using aluminates.

The Office Action recognizes that Amatucci fails to teach or suggest the specific thermal absorbent material and relies on the JP '813 publication for such teaching. In particular, the Office Action recites that the JP '831 publication discloses an active material comprising a lithiated compound and aluminum hydroxide and that the aluminum hydroxide is the thermal absorbent element (page 24).

Finally the Office Action states that in view of the above, it would have been obvious to one skilled in the art at the time of the invention to use the specific additive compound of the JP '813 publication in the positive active material of Amatucci.

Responsively, applicants respectfully note that the reasoning of the Examiner appears to be incomplete for the following reasons.

Assuming that the lithium hydroxide disclosed by Amatucci was substituted by the aluminum hydroxide disclosed by the JP '813 publication, since the Examiner is relying on the lithium hydroxide for the teaching of a hydroxide, then there is no teaching or suggestion of the aluminum hydroxide having an amorphous form, since the only teaching in Amatucci of an amorphous element is the borate or lithiated borate and not of an aluminate.

Accordingly, (a) neither Amatucci nor the JP '813 publication, whether taken singly or combined, teach all of the features recited in independent claim 1, and (b) there is no motivation to combine the references other than Applicant's application.

Therefore, Applicants respectfully submit that the Office Action has pieced together the references to teach the claimed features. However, MPEP § 2143.01 instructs that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)." MPEP § 2143.01 further instructs that "[a]lthough a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.'" Applicants respectfully submit that the references do not provide such a suggestion or motivation.

Applicants respectfully submit that the only motivation to piece together the references of the Office Action is found in the Applicant's own application. MPEP § 2141 instructs that "the

references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention." MPEP 2143 instructs that "the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ 1438 (Fed. Cir. 1991)." The Federal Circuit has clearly held that "the motivation to combine references cannot come from the invention itself." Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc., 21 F.3d 1068, 30 USPQ 2d 1377 (Fed. Cir. 1993).

Thus, Applicants respectfully submit that the Office Action has not established a prima facie case of obviousness and that the rejections under 35 U.S.C. § 103(a) should be withdrawn.

Accordingly, Applicants respectfully assert that the rejection of claim 1 under 35 U.S.C. §103(a) should be withdrawn because neither Amatucci nor the JP '813 publication, whether taken singly or combined teach or suggest each feature of independent claim 1.

Furthermore, Applicants respectfully assert that dependent claims 2, 5, 38 and 39 are allowable at least because of their dependence from claim 1, and because they include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 2, 5, 38 and 39 also distinguish over the prior art.

Regarding the rejection of independent claim 10, it is noted that independent claim 10 recites at least one additive compound selected from the group consisting of a thermal-absorbent element-included hydroxide, a thermal-absorbent element-included oxyhydroxide, a thermal-absorbent element-included oxycarbonate, and a thermal-absorbent element-included hydroxycarbonate, wherein the thermal-absorbent element is one of amorphous Al and crystalline B. Applicants respectfully assert that the combination of Amatucci and the JP '813 publication fails to disclose each of these features, notwithstanding the statements of the Examiner to the contrary.

In detail, the Office Action recites that Amatucci discloses the use of a composition comprising a borate, lithiated borate, aluminate, lithiated aluminate, silicate, lithiated silicate or mixtures thereof (page 23 of the Office Action dated January 25, 2006). The Office Action further recites that Example 3 shows the use of B<sub>2</sub>O<sub>3</sub> and LiOH-H<sub>2</sub>O to obtain a fine lithiated powder and that it is **contended** that a secondary product of such mixture combination of B<sub>2</sub>O<sub>3</sub> and LiOH-H<sub>2</sub>O **can be** a hydroxide of boron.

The Office Action recognizes that Amatucci fails to teach or suggest the specific thermal absorbent material and relies on the JP '813 publication for such teaching. In particular, the Office Action recites that the JP '813 publication discloses an active material comprising a lithiated compound and aluminum hydroxide and that the aluminum hydroxide is the thermal absorbent element (page 24).

Finally the Office Action states that in view of the above, it would have been obvious to one skilled in the art at the time of the invention to use the specific additive compound of the JP '813 publication in the positive active material of Amatucci.

Responsively, applicants respectfully note that the reasoning of the Examiner appears to be incomplete for the following reasons.

As noted above, assuming that the hydroxide of boron allegedly disclosed by Amatucci, since there is no teaching or suggestion in Amatucci that such hydroxide of boron could be obtained, were substituted by the aluminum hydroxide disclosed by the JP '813 publication, there is no teaching or suggestion of an amorphous Al nor is there any teaching or suggestion of a crystalline B, as recited in independent claim 10. The JP '813 publication only notes aluminum hydroxide, but fails to teach or suggest the form of the aluminum hydroxide. Furthermore, the only suggestion of an amorphous element, as noted by the Examiner is in the borate. However, contrary to teaching an amorphous borate, independent claim 10 recites crystalline B.

Accordingly, (a) neither Amatucci nor the JP '813 publication, whether taken singly or combined, teach all of the features recited in independent claim 10, and (b) there is no motivation to combine the references other than Applicants' application.

Accordingly, Applicants respectfully assert that the rejection of claim 10 under 35 U.S.C. §103(a) should be withdrawn because neither Amatucci nor the JP '813 publication, whether taken singly or combined teach or suggest each feature of independent claim 10.

Furthermore, Applicants respectfully assert that dependent claims 11 and 13 are allowable at least because of their dependence from claim 10, and because they include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 11 and 13 also distinguish over the prior art.

**CONCLUSION:**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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